

REMARKS/ARGUMENTS

The presently claimed invention involves a hydrogenation catalyst with palladium and platinum supported on an alumina carrier at a ratio by mass of palladium to platinum in the range of 2.5 to 3.5. The claimed catalyst is useful for hydrogenating a petroleum resin containing a sulfur component. The claimed palladium to platinum ratio provides for a catalyst with a long-term service life even in the presence of sulfur which is known to poison conventional hydrogenation catalysts. The claimed hydrogenation catalyst is not taught or suggested by the cited references.

The rejection of Claims 1, 2, 6 and 7 under 35 U.S.C. § 102(b) over Kukes (U.S. 5,151,172) is respectfully traversed.

Kukes describes a catalyst for the hydrogenation of a hydrocarbon feedstock where the catalyst contains palladium and platinum on a mordenite support. Mordenite is a crystalline high silica containing zeolite material. Kukes does not teach or suggest the use of a catalyst with the claimed palladium to platinum ratio on an alumina carrier. Indeed, Kukes teaches away from the use of alumina in a catalyst because alumina provides for poor dearomatization (column 4, lines 19-29 and Example 15 of Kukes). Specifically, Applicants note that catalysts 10-14 listed in Example 15 of Kukes utilize alumina with a palladium to platinum ratio outside the presently claimed ratio (Pd:Pt of 2.3:1 to 0.5:1). Kukes found that these alumina-containing catalysts are unsuitable as hydrogenation catalysts, and therefore, concluded that alumina is unsuitable for use in a hydrogenation catalyst. Overall, Kukes does not teach or suggest all the limitations of the claimed hydrogenation catalyst and Kukes specifically teaches away from the use of alumina; therefore, the claimed catalyst would not have been anticipated or obvious over Kukes. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection over Kukes.

The rejection of Claims 4 and 5 under 35 U.S.C. § 103(a) over the combination of Kukes and Azuma (U.S. 4,540,480) is respectfully traversed.

Azuma describes a process for preparing a hydrogenated petroleum resin. The process can utilize a supported catalyst containing platinum and/or rhodium which may be used in combination with at most 50% by weight of a metal selected from palladium, ruthenium and rhenium (Abstract). The carrier may be alumina (column 3, line 24). Azuma specifically teaches a catalyst metal ratio that is outside the presently claimed range (Pd:Pt at a ratio of 1.0 Pd or less : 1.0 Pt). Accordingly, Azuma teaches away from the claimed palladium to platinum ratio. Therefore, the combination of Azuma and Kukes does not teach or suggest all the claim limitations of the presently claimed catalyst. In addition, the combination of Kukes and Azuma teach away from the use of alumina as a carrier and the use of palladium and platinum in the claimed ratio. Accordingly, the claimed catalyst would not have been obvious over the combination of Kukes and Azuma, and therefore, Applicants respectfully request that the Examiner withdrawn the rejection over these two references.


In light of the above remarks contained herein, Applicants respectfully submit that the present application is now in condition for allowance. Favorable consideration is respectfully requested.

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